

CLAIMS

1. Method of protecting a vehicle body from corrosion and/or providing a lining
under a region of the body, in the course of which the body is dipped into an
5 anti-corrosion bath at an elevated temperature, in particular in the range
between 150 and 180°C, and is kept there for a predetermined time,
characterized in that
a slit-shaped and/or annular region of the vehicle body, in particular a region
that is freely accessible prior to immersion in the anti-corrosion bath but not
10 during a subsequent lacquering procedure, is provided prior to immersion in
the anti-corrosion bath with a structural element adapted to the shape of this
region, which comprises a section that expands at the elevated temperature in
the anti-corrosion bath and thereafter, at normal temperature, remains
substantially in the expanded state, and that is shaped such that while in the
15 initial state it can be inserted into the region at risk of corrosion and after foam-
expansion it fills up this region, creating a moisture-tight seal against the
exterior.
2. Method of protecting a vehicle body from corrosion and/or providing a lining
under a region of the body,
20 characterized in that
a slit-shaped and/or annular region of the vehicle body is provided with a
structural element adapted to the shape of this region and comprising a section
that expands at a predetermined elevated temperature, in particular in the range
between 150 and 180°C, and subsequently at normal temperature remains
25 substantially in the expanded state, and that is shaped such that while in the
initial state it can be inserted into the slit-shaped and/or annular region and fills
up this region after foam-expansion, creating a moisture-tight seal against the
exterior, and after the structural element has been attached at least the vehicle-
body region provided therewith is subjected to warming to at least the
30 expansion temperature of the expanding section and is kept in the heated state
for a period of time sufficient for adequate expansion.
3. Method according to Claim 1 or 2,
characterized in that a structural element with a section that undergoes foam-

- 12 -

expansion at the elevated temperature and remains solidified in the expanded state when cooled is employed.

4. Method according to Claim 3,
characterized in that a structural element with with an EVA layer that
undergoes foam-expansion when heated and is seated on a thermally stable
carrier, in particular made of a polyamide, is employed.
5. Method according to one of the preceding claims,
characterized in that as a region at risk of corrosion or in need of an underlying
lining, an annular gap between an internal space and the outer dome of a
MacPherson-strut support is provided with an annular structural element and is
tightly sealed by expansion thereof.
6. Method according to one of the claims 1 to 4,
characterized in that as a region at risk of corrosion or in need of an underlying
lining, an elongated gap open on at least one side, between different body parts
or adjacent sections of a body part, is provided with an elongated structural
element and is tightly sealed by expansion thereof.
7. Method according to one of the claims 1 to 4,
characterized in that as a region at risk of corrosion or in need of an underlying
lining, a gap between a roof bow and a roof of a vehicle or a fold region of a
cover for an engine or luggage compartment or a vehicle door or a water tank is
provided with an elongated structural element and is tightly sealed by
expansion thereof.
8. Method according to one of the claims 1 to 4,
characterized in that as a region at risk of corrosion or in need of an underlying
lining, an annular gap formed between a fixation element, in particular a peg,
and an opening in the body is provided with an annular structural element and
is tightly sealed by expansion thereof.

- 13 -

9. Method according to one of the preceding claims,
characterized in that a structural element is employed that is provided with
means, in particular projections, for mounting/fixation while in the initial state
in the region at risk of corrosion.
- 5 10. Structural element for implementing the method according to one of the
preceding claims,
characterized by a section that expands by foaming at the elevated temperature
and solidifies in the expanded state when cooled.
- 10 11. Structural element according to Claim 10,
characterized by a thermally stable carrier, in particular made of a polyamide,
and an EVA layer fixedly connected thereto, which undergoes foam-expansion
when heated and in particular exhibits a degree of volume increase, when in an
unrestricted space, of 100% or more, in particular 500% or more.
- 15 12. Structural element according to Claim 11,
characterized in that the EVA layer has a foaming temperature of 150°C or
more.
13. Structural element according to one of the claims 10 to 12,
characterized by having the basic shape of a ring, in particular a circular ring.
- 20 14. Structural element according to one of the claims 8 to 12,
characterized by having the basic shape of an elongated I, L, T or double-T
profile or a complex profile formed by combination of such standard profile
shapes, such that in at least one edge or angle region of the elongated profile a
section that expands by foaming is provided.
- 25 15. Structural element according to one of the claims 10 to 14,
characterized by projections for fixation while in the initial state in the region
at risk of corrosion.

- 14 -

16. Structural element according to Claim 15,
characterized in that the projections are formed as one or more elastic lips or
feet, in particular from the thermally stable carrier.
- 5 17. Structural element according to one of the claims 11 to 16,
characterized in that the thermally stable carrier is dimensioned and shaped, in
adaptation to the shape of the region at risk of corrosion, such that it
substantially completely covers the latter externally, so that the expanding
section is not visible from the exterior even in its foam-expanded state.